

**Notice of Allowability**

Application No.

10/701,655

Examiner

Khai M. Nguyen

Applicant(s)

WU ET AL.

Art Unit

2819

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11-01-2003.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ The drawings filed on 04 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 1-15 are allowed.
2. The following is an examiner's statement of reasons for allowance: the best prior art of record '098 and/or '297 (see the cited references) is either considered alone or in combination fails to teach or suggest the method(s)/data structure of the claimed invention. For example, for claims 1-5, the prior art does not teach a data structure that includes, among other unique features as set forth in the claims, a compressed bitmap comprised of words that have a length of word length (WL) bits, wherein the compressed bitmap represents sequentially corresponding bits in an uncompressed bitmap; an active word; and an active word bit length of nbits.

As for claims 6-8, the prior art also does not teach a method of bitmap compression, comprising: providing a literal/fill bit is set to indicate a literal value, then setting in the remaining WL-1 bits a literal representation of uncompressed bitmap; and if the literal/fill bit is set to indicate a fill value, the setting, in a fill bit, a representation of the fill value, and setting a plurality of the remaining WL minus two bits to contain a representation, k, of a number of fill values repeated  $k*(WL-1)$  times in the uncompressed bitmap.

For claims 9-13, the best prior art fails to teach the method that includes steps of inputting a plurality of word aligned hybrid compressed bitmaps having a same uncompressed bit length; and operating on the plurality of word aligned

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hybrid compressed bitmaps to create a resultant word aligned hybrid compressed bitmap that is a function of a logical operator.

For claim 14, none of the prior art discloses/suggests the subject matter of the computation method of operating on a word aligned hybrid compressed bitmap that includes, among other steps, a step of examining the word aligned hybrid compressed bitmap to create a count that is a number of instances the bit pattern occurs in the corresponding uncompressed bitmap.

For claim 15, the prior art does not fairly teach or suggest a method of operating on a word aligned hybrid compressed bitmap that includes, among other steps, a step of traversing the word aligned hybrid compressed bitmap to create a set of positions that are where the bit pattern occurs in the corresponding uncompressed bitmap. Therefore, claims 1-15 are allowed over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Contact Information***

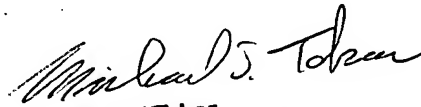
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571-272-1809. The examiner can normally be reached on 8:00 to 4:30 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KN  
August 17, 2004

  
**Michael Tokar**  
Supervisory Patent Examiner  
Technology Center 2800